

Information that is provided to text editor 214 by administrator 206 is stored as an editable, non-volatile text field 222 in a database 226 within access point 226. It should be appreciated that database 226 is generally a computer memory and may be, in one embodiment, a hard disk, a computer-readable tape, a floppy disk, or a CD-ROM. In addition to storing editable, non-volatile text field 222, database 226 typically also stores other information. For instance, information used by record generator 218 to generate accounting records pertaining to the usage of access point 202 is typically obtained from database 226 where the information is stored. Such information may include a user name, a date, and a time which are substantially automatically recorded when a user of a roaming device (not shown) comes into range of access point 226.

A record generated by record generator 218 which may be executed by processor 230 may be a start record which is generated when a roaming device registers with access point 202, or an end record which is generated when the roaming device is deregistered from access point 202. Such records generally include the information, or at least some representation of the information, contained within editable, non-volatile text field 222, as well as other information stored in database 226. Records generated by record generator 218 are typically also stored in database 226 until the records are needed, *e.g.*, by a billing system of a service provider. As will be understood by those skilled in the art, record generator 218 is typically a software program, or computer code, which causes records to be created.

In general, when a service provider first obtains an access point, the service provider configures the access point for operation. That is, the service provider or, more specifically, a system administrator associated with the service provider, sets up the access point. Fig. 3 is a process flow diagram which illustrates the steps associated with configuring an access point in accordance with an embodiment of the present invention. A process 300 begins at step 304 in which the access point is placed at or positioned in a desired location. Once the access point is properly positioned, power may be provided to the access point in step 308.

After power has been provided to the access point, the coordinates of the location at which the access point is positioned are identified in step 312. The coordinates of the location may be identified using substantially any suitable method. By way of example, the longitude, latitude, and altitude coordinates of the location of the access point may be identified using a GPS receiver at the location at which the access point is positioned.

Once the coordinates of the location of the access point are identified, the system administrator may manually enter the coordinates into the editable text field associated with the access point in step 316. As previously mentioned, the system administrator may input the coordinates as text into the editable text field using a text editor associated with the access point. When the coordinates are entered into the editable text field, the coordinates effectively remain static in the editable text field until the system administrator manually overwrites the coordinates, *e.g.*, to provide a new set of coordinates when the access point is to be repositioned in a different location. After the coordinates are entered into the editable text field, the process of configuring the access point is completed.

When a roaming device comes into range of an access point which has been configured, *e.g.*, as described in Fig. 3, the roaming device and the access point communicate in order to establish that the roaming device is in range of the access point. Fig. 4 is a process flow diagram which illustrates the steps associated with the functioning of an access point with respect to establishing when a roaming device is within range of the access point in accordance with an embodiment of the present invention. A process 400 of establishing that a roaming device is within the communications range of an access point begins at step 404 in which a roaming device registers itself with the access point. Typically, when a roaming device enters the communications range of an access point, the roaming device and the access point automatically communicate such that the presence of the roaming device in the communications range is effectively acknowledged, as will be appreciated by those

skilled in the art. That is, remote authentication is performed between the roaming device and the access point using substantially any suitable authentication protocol.

Once the roaming device is registered with the access point, the access point  
5 creates a start record for the roaming device in step 408. The start record is generally a data record that includes information that is automatically obtained from the roaming device when the roaming device registers with the access point. Such information may include, but is not limited to, an identifier associated with the roaming device, a port number of the access point on which communications from the roaming device are  
10 received, and a time at which the roaming device registered with the access point. In the described embodiment, the start record includes information from the editable text field, *e.g.*, the coordinates of the access point which were entered into the editable text field when the access point was configured.

15 After the start record is created, the access point periodically determines if the roaming device is within its communications range in step 412. In other words, the access point periodically attempts to confirm that the roaming device is within its communications range by polling the roaming device using substantially any suitable method, as will be understood by those skilled in the art. A determination is made in step  
20 416 regarding whether the roaming device is in the communications range of the access point. If it is determined that the roaming device is in range of the access point, then the roaming device is allowed to continue to access a network associated with the access point through the access point, and process flow returns to step 412 in which the access point periodically checks to determine if the roaming device is within range of the access  
25 point.

Alternatively, if it is determined in step 416 that the roaming device is not in range of the access point, then the indication is that the roaming device has been moved, *e.g.*, into range of a different access point. Accordingly, in step 420, the access point  
30 deregisters the roaming device using substantially any suitable method. Once the access